

**REMARKS**

Claims 17-33 are all the claims pending in the application. Claims 1-16 have been canceled and rewritten as new Claims 17-32, respectively, to more clearly point out the claimed invention. Support for Claim 17 may be found at, for example, page 6 of the specification, lines 11-15. New Claim 33 is dependent from Claim 17 and further recites that a graft-polymer chain is additionally present inside a base material. Support for Claim 33 may be found at, for example, page 12 of the specification, lines 14-18.

No new matter has been introduced and entry of the amendments is respectfully requested.

**Rejection of Claims 12-16 under 35 U.S.C. 112, second paragraph**

Claims 12-16 have been rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner points out it is not clear which one of the cushion layer or the abrasive layer is made of a hydrophobic polymer.

Claim 12 has now been rewritten as new Claim 28. Claim 28 particularly points out and distinctly claims the subject matter: it recites the abrasive pad of the present invention further comprises a cushion layer on one face of the base material.

Accordingly, it is believed the rejection of Claims 12-16 under 35 U.S.C. § 112, second paragraph is moot by virtue of the amendments.

**Rejection of Claim 1 under 35 U.S.C. § 102(e)**

Claim 1 has been rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Lombardo et al. 6,585,574 (“Lombardo”).

Lombardo is relied on to disclose an abrasive pad for abrading a surface in the presence of an abrading solution comprising a hydrophobic polymer base material, wherein a hydrophilic group is added to the surface of the polymer.

According to Lombardo, a hydrophilic polymeric additive is contained in the hydrophobic polymeric matrix. The pad surface is partially hydrophobic due to the polymeric matrix and partially hydrophilic due to the polymer additive. *See* Claim 1 of Lombardo.

By contrast, the abrasive pad of the present invention has a graft-polymer chain which has a hydrophilic group and is coupled to hydrophobic polymer (which makes up of a base material), forming a continuous hydrophilic region on the surface of the base material. *See* Specification, at 6, lines 11-15. Claim 1 has been rewritten as new Claim 17 to more clearly point out this distinguishing feature of the present invention. New Claim 17 recites “[a]n abrasive pad for abrading a surface to be abraded in the presence of an abrasive solution, the abrasive pad comprising (a) a base material comprised of a hydrophobic polymer and (b) a graft-polymer chain introduced to the base material, said graft-polymer chain having a hydrophilic group, being present on the surface of the base material, and being coupled to the hydrophobic polymer, wherein the surface of the base material has a continuous hydrophilic region over the entire surface.”

Therefore, Lombardo does not teach or suggest the feature of the abrasive pad of the present invention as recited in Claim 17. It is respectfully requested that the rejection of Claim 1 be withdrawn.

**Rejection of Claim 2-11 under 35 U.S.C. § 103(a)**

Claims 2-11 have been rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Lombardo, alone.

Lombardo is relied on to disclose an abrasive pad for abrading a surface in the presence of an abrading solution comprising a hydrophobic polymer base material. The Office Action alleges that a hydrophilic group is added to the surface of the polymer. The Office Action acknowledges that Lombardo does not disclose the claimed hydrophilic group or hydrophobic group.

As discussed above, Lombardo teaches that the surface of the abrasive pad is partially hydrophilic and partially hydrophobic. To the contrary, the abrasive pad of the present invention has a continuous hydrophilic region over its entire surface. New Claims 18-27, which correspond to original Claims 2-11, respectively, more clearly point out this feature. Furthermore, Lombardo does not provide a motivation to modify its partial hydrophilic and partial hydrophobic surface to a continuous hydrophilic over the entire surface of the pad of the present invention, with a reasonable expectation of success.

Therefore, Applicants believe that new Claims 18-27 overcome the rejection, and it is respectfully requested the rejection be withdrawn.

**Rejection of Claims 12-16 under 35 U.S.C. § 103(a)**

Claims 12-16 have been rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Lombardo in view of EP-1 138 438 ("EP-438").

EP-438 teaches a polishing pad having a cushioning layer of elastomer material having a thickness between 0.1-100 mm (page 3, last 3 lines). Applicants understand that the Office Action's position is that it would have been obvious to one skilled in the art at time invention was made to provide the pad of Lombardo with a cushioning layer, as taught by EP-1 138 438, in order to more uniformly planarize the entire face of the substrate.

As discussed above, Lombardo does not teach an abrasive pad which has a continuous hydrophilic region over its entire surface. Nor does EP-438 teach such an abrasive pad. Neither Lombardo or EP-438 provides a motivation to modify the partial hydrophilic and partial hydrophobic surface to a continuous hydrophilic over the entire surface of the pad of the present invention, with a reasonable expectation of success

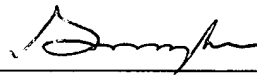
New Claims 28-32, which correspond to original Claims 12-16, respectively, more clearly point out the feature of the present invention. Therefore, Applicants believe that new Claim 17 overcomes the rejection and it is respectfully requested the rejection be withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

KAWAMURA et al.  
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Amendment Under 37 C.F.R. 1.111

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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